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TITLE: Vaccines expressed in plants

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INVENTOR-INFORMATION:

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US-CL-CURRENT: 424/204.1; 424/223.1, 424/225.1, 424/227.1,
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CLAIMS:

What is claimed is:

1. An orally acceptable immunogenic composition comprising unpurified or partially purified recombinant viral immunogen expressed in a plant, wherein said immunogen is expressed in the plant at a level such that upon oral administration of said composition to an animal, an immunogenic response is observed.
2. The vaccine of claim 1 wherein said immunogen is capable of generating an immunogenic response when the immunogen interacts with a mucosal membrane.
3. The vaccine of claim 1 wherein the immunogen is capable of binding a glycosylated molecule on the surface of a membrane of a mucosal cell.
4. The vaccine of claim 1 wherein said immunogen is a chimeric protein.
5. The vaccine of claim 1 wherein said immunogen is an immunogen derived from a hepatitis virus.
6. An orally acceptable immunogenic composition comprising unpurified or partially purified recombinant viral immunogen expressed in a plant, wherein said immunogen is expressed in the plant at a level such that upon oral administration of said composition to an animal, an immunogenic response is observed, said viral immunogen being an immunogenic protein from a virus selected from the group consisting of transmissible gastroenteritis virus and hepatitis virus.
7. A vaccine comprising a immunogen of hepatitis virus expressed in a plant, wherein said immunogen is capable of binding a glycosylated molecule on a surface of a membrane mucosal cell.
8. A plant composition comprising a viral antigen which triggers

production of antibodies and which is derived from a hepatitis B virus surface antigen or transmissible gastroenteritis virus spike protein, and plant material; said antigen being a product produced by the method of expressing said immunogen in a transgenic plant, said plant material being in a form chosen from the group consisting of a whole plant, plant part, or a crude plant extract.

9. An anti-hepatitis B vaccine comprising the composition of claim 8 wherein said antigen is derived from hepatitis B virus surface antigen.

10. An anti-transmissible gastroenteritis vaccine comprising the composition of claim 8 wherein said antigen is derived from transmissible gastroenteritis virus spike protein.